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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/556,132	11/15/2006	Bernd Bruchmann	280143US0PCT	2494
22850	7590	09/14/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER LEONARD, MICHAEL L	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			09/14/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/556,132	Applicant(s) BRUCHMANN ET AL.	
	Examiner MICHAEL LEONARD	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6 and 8-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,786,682 to Perez in view of U.S. Patent No. 6,376,637 to Bruchmann et al.

Response to Arguments

Applicant's arguments filed 06/12/2009 have been fully considered but they are not persuasive.

The applicant argued that none of the cited references disclose or suggest a diol or polyol having at least one tertiary nitrogen atom and at least two hydroxyl groups of differing reactivity. The examiner would like to point to the Perez reference wherein Michael adducts are formed from the same starting materials that were used in the instant disclosure. For instance, Perez discloses preferred amino compounds such as dialkanolamines and in particular diethanolamine and diisopropanolamine, which are the same amines used in the instant disclosure (Column 2, lines 25-32). Furthermore, Perez lists suitable hydroxyalkyl acrylates that are suitable in preparing the Michael Adducts, such as 2-hydroxyethyl acrylate and 2-hydroxypropyl acrylate (Column 4, lines 5-20). Perez further discloses that an important feature of the claimed invention is that the Michael Adduct contains tertiary amine groups which act as internal catalysts for the crosslinking reaction between the hydroxyl groups of the adduct and a polyisocyanate curing agent (Column 8, lines 30-36). As a result of the disclosure of Perez, the

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resulting Michael Adducts would have at least two hydroxyl groups of differing reactivity and contain tertiary nitrogens.

The applicant further argues that there is no suggestion that the Michael Adduct have at least two hydroxyl groups with differing reactivity. However, from the disclosure of Perez, a person of ordinary skill in the art would understand that the reaction between diethanolamine or diisopropanolamine with hydroxyalkyl acrylates that are suitable in preparing the Michael Adducts, such as 2-hydroxyethyl acrylate and 2-hydroxypropyl acrylate would produce a final Michael Adduct having at least two hydroxyl groups with differing reactivity. The examples of the instant disclosure use the same Michael Adduct reactants and therefore a person of ordinary skill would assume that the Michael Adducts of Perez have at least two hydroxyl groups with differing reactivity. Thus, Perez does disclose and suggest that certain Michael Adducts would contain hydroxyl groups of differing reactivity.

Furthermore, “a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments.” *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989). As a result, simply by pointing to the examples of Perez does not limit a person of ordinary skill in the art to assume that other Michael Adducts can be formed from the reaction between diethanolamine or diisopropanolamine with hydroxyalkyl acrylates that are suitable in preparing the Michael Adducts, such as 2-hydroxyethyl acrylate and 2-hydroxypropyl acrylate as disclosed by Perez. Furthermore, Perez sites that the following examples are intended

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to be illustrative of the invention and are not intended to be limiting (Column 8, lines 67-68).

Furthermore, the Bruchmann reference specifically points to isocyanate-reactive compounds having different hydroxyl reactivity so that the reaction conditions are selected so that only certain reactive groups react with one another in each reaction step (Column 2, lines 40-48). Furthermore, Bruchmann discloses a simple process for preparing dendritic and highly branched polyurethane which can be carried out using readily available raw materials and the this object is achieved by exploiting the differences in the reactivity of the isocyanate groups of diisocyanates or polyisocyanates or of the functional groups in the compounds which are reactive toward isocyanates in order to control a selective buildup of the polymers (Column 2, lines 30-39). As a result, it would have been obvious to a person of ordinary skill in the art to use the Michael Adducts of Perez in the hyperbranched process of Bruchmann because the Bruchmann process requires a isocyanate reactive component with different hydroxyl group reactivities in order to create a structurally and molecularly uniform, branched chains going out from a central molecule as evidenced by Bruchmann (Column 2, lines 55-61). Also, the presence of the tertiary amine Michael Adduct of Perez, which acts as a catalyst, would help promote a faster reaction between the isocyanate-reactive components and the polyisocyanates of Bruchmann that would decrease processing/production costs.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MICHAEL LEONARD** whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL LEONARD/
Examiner, Art Unit 1796

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796